



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/686,331

10/14/2003

Richard M. Butler

10991268-3

7201

22879

7590

07/25/2006

HEWLETT PACKARD COMPANY  
P O BOX 272400, 3404 E. HARMONY ROAD  
INTELLECTUAL PROPERTY ADMINISTRATION  
FORT COLLINS, CO 80527-2400

EXAMINER

DO, CHAT C

ART UNIT

PAPER NUMBER

2193

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/686,331	Applicant(s) BUTLER, RICHARD M.	
	Examiner Chat C. Do	Art Unit 2193	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22 is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. This communication is responsive to Amendment filed 06/05/2006.
2. Claims 1-22 are pending in this application. Claims 1 and 22 are independent claims.

This Office Action is made final.

#### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-21 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-21 recites a method of generating a random number according to a mathematical algorithm. In order for a method claims to be statutory, the claims must include a practical application that produces a useful, concrete, and tangible result. However, the claims merely recite a method of generating a random number based upon an algorithm. As guided, a claim that recites a computer implemented that solely calculates a mathematical formula or a computer medium that solely stores a mathematical formula is not statutory. Therefore, claims 1-21 are directed to non-statutory subject matter.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-2, 7-16, 18, and 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Broseghini et al. (U.S. 5,416,783).

Re claim 1, Broseghini et al. discloses in Figures 1-9 a method of generating a random number (e.g. col. 9 lines 41-44), comprising: via inputs to a number of multiple input shift register (MISRs) (e.g. Figure 3 and col. 2 lines 14-28), randomly sampling data transmitted over a number of microprocessor buses; retrieving values from the number MISRs (e.g. col. 9 lines 45-54 and col. 13 lines 47-56, steps 2 and 3); and generating a random number which is based on the values retrieved from the number of MISRs (e.g. col. 10 lines 3-14).

Re claim 2, Broseghini et al. further discloses in Figures 1-9 the number of MISRs is one (e.g. col. 9 lines 45-54 and col. 13 lines 47-56).

Re claim 7, Broseghini et al. further discloses in Figures 1-9 one of the number of MISRs is coupled to a bus which runs wholly within an integrated circuit package (e.g. Figure 3 as CPU integrated circuit).

Re claim 8, Broseghini et al. further discloses in Figures 1-9 retrieving values from the number of MISRs comprises: loading bits of a value stored in a first of the number of MISRs, in parallel, into a temporary register (e.g. col. 9 lines 55-63); and

retrieving the value stored in the temporary register (e.g. col. 9 line 64 to col. 10 line 2 for retrieving to AND with Mask value).

Re claim 9, Broseghini et al. further discloses in Figures 1-9 retrieving values from the number of MISRs comprises retrieving a value from a first of the number of MISRs by stepping the first of the number of MISRs to serially shift a plurality of bits out of the MISR (e.g. col. 9 lines 45-54 and col. 13 lines 47-56).

Re claim 10, Broseghini et al. further discloses in Figures 1-9 generating a random number comprises hashing together the values retrieved from the number of MISRs (e.g. col. 10 lines 3-14 by XOR operation).

Re claim 11, Broseghini et al. further discloses in Figures 1-9 generating a random number comprises XORing the values retrieved from the number of MISRs (e.g. col. 10 lines 3-14 by XOR operation).

Re claim 12, Broseghini et al. further discloses in Figures 1-9 prior to randomly sampling data transmitted over the number of microprocessor buses, turning on and initializing each of the number of MISRs upon boot of a computer in which the MISRs reside (e.g. inherently).

Re claims 13-14 and 16, values are retrieved from the number of MISRs via an operating system call wherein the operating system call is of a highest privilege level and issued in response to an application's request for a random number (e.g. inherently).

Re claim 15, Broseghini et al. further discloses in Figures 1-9 generating a random number is performed immediately after the number of MISR readings are taken

(e.g. Figure 5 and Figure 9), the method further comprising storing the random number in a temporary location for subsequent use (e.g. col. 10 lines 29-30).

Re claim 18, Broseghini et al. further discloses in Figures 1-9 generating random number comprises providing the values retrieved from the number of MISRs, as well as historic values retrieved from the number of MISRs, to a pseudo-random number generator (e.g. col. 8 line 50 to col. 9 line 40).

Re claim 20, Broseghini et al. further discloses in Figures 1-9 the random number is an encryption key (e.g. col. 18 lines 48-50).

Re claim 21, Broseghini et al. further discloses in Figures 1-9 the MISRs form part of a microprocessor's built-in self-test hardware (e.g. Figure 3 and col. 6 lines 6-19 with the random generator circuit).

#### ***Allowable Subject Matter***

7. Claim 22 is allowed.

#### ***Response to Arguments***

8. Applicant's arguments filed 06/05/2006 have been fully considered but they are not persuasive.

- a. The applicant argues in pages 6-7 repeatedly for claims 1-21 that the limitations cited in the claims are patentable because it discloses a practical application which produce a useful, concrete, and tangible result.

The examiner respectfully submits that the current claim language does not specific any practical application as alleged by the applicant in page 7. Even though the practical application of this random number generation is used to encrypt the key, but it is not disclose in the claim. In addition, the claims do not define or yield any tangible results, the result of claims is the random number based on the value of MISRs which can be logically done.

- b. The applicant argues in page 9 for claims 1-21 that the cited reference by Broseghini et al. fails to disclose the sample data passing through a microprocessor buses into the MISRs due to highly random within buses as cited in the claimed invention.

The examiner respectfully submits that the rejection above clearly states the limitations as seen in Figure 3 and col. 2 lines 14-28. In addition, the process of generating random numbers is done in the CPU 20 which contains the microprocessor and buses, thus the sample data for generating random numbers must passing through the microprocessor buses as claimed.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

Art Unit: 2193

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (571) 272-3721. The examiner can normally be reached on M => F from 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do  
Examiner  
Art Unit 2193

July 18, 2006

  
KAKALI CHAKI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100